

State of Hawaii  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Aquatic Resources  
Honolulu, Hawaii 96813

August 12, 2010

Board of Land  
and Natural Resources  
Honolulu, Hawaii

Request for Authorization and Approval to Issue a Papahānaumokuākea Marine National  
Monument Research Permit to Drs. Jay Barlow and Erin Oleson, National Marine  
Fisheries Service, for Access to State Waters to Conduct Cetacean Surveys

The Division of Aquatic Resources (DAR) hereby submits a request for your authorization and approval for issuance of a Papahānaumokuākea Marine National Monument research permit to Drs. Jay Barlow and Erin Oleson, National Marine Fisheries Service, pursuant § 187A-6, Hawaii Revised Statutes (HRS), chapter 13-60.5, Hawaii Administrative Rules (HAR), and all other applicable laws and regulations.

The research permit, as described below, would allow entry and research activities to occur in the Papahānaumokuākea Marine National Monument (Monument), including the NWHI State Marine Refuge and the waters (0-3 nautical miles) surrounding the following sites:

- Nihoa Island
- Necker Island (Mokumanamana)
- French Frigate Shoals
- Gardner Pinnacles
- Maro Reef
- Laysan Island
- Lisianski Island
- Pearl and Hermes Atoll
- Kure Atoll

The activities covered under this permit would occur between August 24, 2010 and November 30, 2010.

The proposed activities are similar to work previously permitted and conducted in the Monument.

### INTENDED ACTIVITIES

The applicant proposes to carry out the 2010 Hawaiian Archipelago Cetaceans and Ecosystem Assessment Survey (HICEAS), which is a marine mammal assessment survey of the Exclusive Economic Zone (EEZ) of Hawaiian waters out to a distance of approximately 200 nautical miles. The primary objectives of HICEAS are to estimate the abundance and to understand the distribution of dolphins and whales in the Hawaiian EEZ using visual and acoustic survey methods. A secondary objective is to characterize the pelagic ecosystem within the study area, through the collection of underway and station-based physical and biological oceanographic sampling, studies of mid-trophic level organisms (using net sampling and acoustic backscatter methods) and research on non-protected apex predators (seabirds). A final objective is to conduct biopsy sampling and photoidentification studies of cetacean species of special interest.

Marine mammal surveys are conducted using line-transect methodology. The ships would not approach closer than 1 mile from the 10-fathom isobath of any island or shoal (other than Midway). Small boats may approach closer if animals are seen from the ship, but no one would set foot on any island (other than Midway).

The applicant requests taking between 5-50 biopsy samples per species, of various whale and dolphin species, but notes that the ultimate number taken would be much lower than the allowable total. A complete list of species can be found on p.12 of the application (F-2a).

In addition to cetacean surveys and biopsies, the applicant would conduct a visual survey of seabirds, active acoustic surveys, and oceanographic sampling which would include standard water sampling as well as net tows for plankton samples.

While the applicant initially requested to use hook-and-line gear to catch fish, this request has been withdrawn.

These activities are necessary to evaluate the status of cetaceans within the EEZ of Hawaii, including the Northwestern Hawaiian Islands. As such, the activities directly support the Monument Management Plan's action plan 3.2.1 – Threatened and Endangered Species (through activity TES-2.1: Census cetacean populations).

The activities described above may require the following regulated activities to occur in State waters:

- ☒ Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving monument resource

### REVIEW PROCESS

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry

and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since June 21st, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

**Comments received from the scientific community are summarized as follows:**

Scientific reviews support the acceptance of this application.

The following concerns were raised. Applicant responses are noted below.

1. Do cetaceans experience significant trauma from successful and unsuccessful biopsy attempts? How do they (cetaceans) respond?
  - The applicant reports that the impact of successful and unsuccessful biopsy attempts to cetaceans is negligible. Typically, no response is detected in animals. If signs of harassment (such as rapid changes in direction or prolonged diving) are observed from an individual or a group, biopsy activities would be discontinued on that individual or group. Animals would rarely be targeted for biopsy more than twice during an encounter; during any single encounter, no more than three biopsy sample attempts per individual would be made.
2. What mechanism is in place to share information from these collections?
  - The applicant explains that Cruise Summaries and Data Reports are standard components of the Southwest and Pacific Islands Fisheries Science Center's cruise documentation. Periodically, reports from at-sea operations are posted on line for the public to view. An official NOAA Technical Memorandum, documenting data collected would be produced within a year of the end of the cruise. All results published by NOAA/NMFS/SWFSC are public record and all reports are available upon request.

**Comments received from the Native Hawaiian community are summarized as follows:**

Cultural reviews support the acceptance of this application. No concerns were raised.

**Comments received from the public are summarized as follows:**

No comments were received from the public on this application.

**Additional reviews and permit history:**

Are there other relevant/necessary permits or environmental reviews that have or will be issued with regard to this project? (e.g. MMPA, ESA, EA) Yes ☒ No ☐  
If so, please list or explain:

- All activities are authorized under Scientific Research Permit No. 14097, and its associated EA, issued by the Office of Protected Resources, National Marine Fisheries Service.
- Environmental Assessment for Issuance of a Scientific Research Permit [File No. 14097] for Pinniped, Cetacean, and Sea Turtle Studies resulted in a FONSI
- The Department has made an exemption determination for this permit in accordance chapter 343, HRS, and Chapter 11-200, HAR. See Attachment ("DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR PAPA HĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT RESEARCH PERMIT TO DRS. JAY BARLOW AND ERIN OLESON, NOAA, NATIONAL MARINE FISHERIES SERVICE, FOR ACCESS TO STATE WATERS TO CONDUCT CETACEAN SURVEYS UNDER PERMIT PMNM-2010-053")

Has Applicant been granted a permit from the State in the past? Yes ☐ No ☒  
If so, please summarize past permits:

- However, the State has issued permits for similar cetacean survey activities in the past to David Johnson, NOAA, NMFS (PMNM-2008-020).

Have there been any a) violations: Yes ☐ No ☒  
b) Late/incomplete post-activity reports: Yes ☐ No ☒

Are there any other relevant concerns from previous permits? Yes ☐ No ☒

**STAFF OPINION**

DAR staff is of the opinion that Applicant has properly demonstrated valid justifications for his application and should be allowed to enter the NWHI State waters and to conduct the activities therein as specified in the application with certain special instructions and conditions, which are in addition to the Papahānaumokuākea Marine National Monument Research Permit General Conditions. All suggested special conditions have been vetted through the legal counsel of the Co-Trustee agencies (see Recommendation section).

**MONUMENT MANAGEMENT BOARD OPINION**

The MMB is of the opinion that the Applicant has met the findings of Presidential Proclamation 8031 and this activity may be conducted subject to completion of all

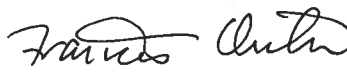
compliance requirements. The MMB concurs with the special conditions recommended by DAR staff.

### RECOMMENDATION

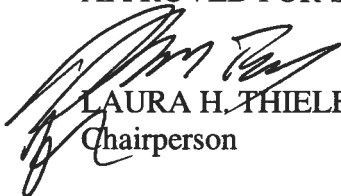
That the Board authorize and approve a Research Permit to Drs. Jay Barlow and Erin Oleson, NOAA, National Marine Fisheries Service, with the following special conditions:

1. This permit is not to be used for nor does it authorize the sale of collected organisms. Under this permit, the authorized activities must be for noncommercial purposes not involving the use or sale of any organism, by-products, or materials collected within the Monument for obtaining patent or intellectual property rights.
2. The permittee may not convey, transfer, or distribute, in any fashion (including, but not limited to, selling, trading, giving, or loaning) any coral, live rock, or organism collected under this permit without the express written permission of the Co-Trustees.
3. To prevent introduction of disease or the unintended transport of live organisms, the permittee must comply with the disease and transport protocol attached to this permit.
4. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.
5. Refueling of tenders and all small vessels must be done at the support ships and outside the confines of lagoons or near-shore waters in the State Marine Refuge.
6. No fishing is allowed in State Waters except as authorized under State law for subsistence, traditional and customary practices by Native Hawaiians.

Respectfully submitted,

  
for Administrator

APPROVED FOR SUBMITTAL

  
LAURA H. THIELEN  
Chairperson



LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF AQUATIC RESOURCES  
1151 PUNCHBOWL STREET, ROOM 330  
HONOLULU, HAWAII 96813

August 12, 2010

LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEN C. KAWAHARA  
DEPUTY DIRECTOR - WATER

RUSSELL TSUJI  
DEPUTY DIRECTOR - LAND

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
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CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAOHOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

TO: Division of Aquatic Resources File

THROUGH: Laura H. Thielen, Chairperson

FROM: Francis Oishi  
Division of Aquatic Resources 

DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT  
UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR  
PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT RESEARCH PERMIT TO DRs. JAY  
BARLOW AND ERIN OLESON, NOAA, NATIONAL MARINE FISHERIES SERVICE, FOR ACCESS TO  
STATE WATERS TO CONDUCT CETACEAN SURVEYS UNDER PERMIT PMNM-2010-053.

The following permitted activities are found to be exempted from preparation of an  
environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR:

Project Title:

Papahānaumokuākea Marine National Monument Research Permit to Drs. Jay Barlow and Erin  
Oleson, NOAA, National Marine Fisheries Service, for Access to State Waters to Conduct  
Cetacean Surveys

Permit Number: PMNM-2010-053

Project Description:

The research permit application, as described below, would allow entry and activities to occur in  
Papahānaumokuākea Marine National Monument (Monument), including the NWHI State  
waters between August 24, 2010 and November 30, 2010.

This is an effort to carry out the 2010 Hawaiian Archipelago Cetaceans and Ecosystem  
Assessment Survey (HICEAS), which is a marine mammal assessment survey of the Exclusive  
Economic Zone (EEZ) of Hawaiian waters out to a distance of approximately 200 nautical miles.  
Activities would include visual surveys of cetaceans and seabirds, cetacean biopsies, active  
acoustic surveys, and standard oceanographic sampling (i.e. water samples and plankton tows).

The proposed activities are in direct support of the Monument Management Plan's priority  
management needs 3.2 – Conserving Wildlife and Habitats, through action plan 3.2.1 –  
Threatened and Endangered Species. This action plan includes an activity to “census cetacean  
populations”.

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Activities to support conserving wildlife in the NWHI are addressed in the Monument Management Plan Environmental Assessment (December 2008) which resulted in a FONSI, or a finding of no significant impact. This EA specifically covers field activities, such as those being proposed, to “conduct annual censuses of cetacean populations” (PMNM MMP Vol 2, p.72). In addition, the “Environmental Assessment for Issuance of a Scientific Research Permit [File No. 14097] for Pinniped, Cetacean, and Sea Turtle Studies” resulted in a FONSI.

Consulted Parties:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since June 21st, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument’s Public Notification Policy.

Exemption Determination:

After reviewing HAR § 11-200-8, including the criteria used to determine significance under HAR § 11-200-12, DLNR has concluded that the activities under this permit would have minimal or no significant effect on the environment and that issuance of the permit is categorically exempt from the requirement to prepare an environmental assessment based on the following analysis:

1. All activities associated with this permit, including cetacean surveys and sampling, have been evaluated as a single action. As a preliminary matter, multiple or phased actions, such as when a group of actions are part of a larger undertaking, or when an individual project is precedent to or represents a commitment to a larger project, must be grouped together and evaluated as a single action. HAR § 11-200-7. Since this permit involves an activity that is precedent to a later planned activity, i.e. the continuation of cetacean surveys, the categorical exemption determination here will treat all planned activities as a single action.

2. The Exemption Class for Scientific Research with no Serious or Major Environmental Disturbance Appears to Apply. Chapter 343, HRS, and § 11-200-8, HAR, provide for a list of classes of actions exempt from environmental assessment requirements. HAR §11-200-8.A.5. exempts the class of actions which involve “basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.” This exemption class has been interpreted to include “game and non-game wildlife surveys, inventory studies, new transect lines, photographing, recording, sampling...”, such as those being proposed.

The proposed activities appear to fall squarely under the exemption class #5, exempt item #2 as described under the division of Forestry and Wildlife exemption list published on June 12, 2008. As discussed below, no significant disturbance to any environmental resource is anticipated in the sampling of Monument resources. Thus, so long as the below considerations are met, an exemption class should include the action now contemplated.

3. Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Potentially Particularly Sensitive Environment Will Not be Significant. Even where a categorical exemption



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appears to include a proposed action, the action cannot be declared exempt if “the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.” HAR § 11-200-8.B. To gauge whether a significant impact or effect is probable, an exempting agency must consider every phase of a proposed action, any expected primary and secondary consequences, the long-term and short-term effects of the action, the overall and cumulative effect of the action, and the sum effects of an action on the quality of the environment. HAR § 11-200-12. Examples of actions which commonly have a significant effect on the environment are listed under HAR § 11-200-12.

A similar study of this type, to survey cetaceans, was permitted and undertaken by another NOAA applicant in 2008. It is reasonable to expect future permit requests to continue this work. No deleterious impacts resulted from similar previous activities. With this in mind, significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities would be conducted in a manner compatible with the management direction of the Monument Proclamation in that the activities do not diminish monument resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects. The joint permit review process did not reveal any anticipated indirect or cumulative impacts, nor did it raise any cultural concerns, that would occur as a result of these activities.

The activities would be conducted by two teams aboard the NOAA Ship McARTHUR II (PMNM-2010-052 pending) and the NOAA Ship OSCAR ELTON SETTE (PMNM-2010-006) during multiple cruises between August and November, 2010. The proposed cetacean surveys are the only anticipated activities to occur on those cruises. The NOAA Ship HI'IALAKAI (PMNM-2010-007) will also be in the Monument during this time frame to support activities of the Pacific Reef Assessment and Monitoring Program (RAMP) (PMNM-2010-052 pending). The culmination of these permits, and their disparate activities, occurring throughout the Monument over a month-long period, is not anticipated to have significant cumulative impacts.

Since no significant cumulative impacts or significant impacts with respect to any particularly sensitive aspect of the project area are anticipated, the categorical exemptions identified above should remain applicable.

**4. Overall Impacts will Probably be Minimal and Insignificant** Any foreseeable impacts from the proposed activity will probably be minimal, and further mitigated by general and specific conditions attached to the permit. Specifically, all research activities covered by this permit will be carried out with strict safeguards for the natural, historic, and cultural resources of the Monument as required by Presidential Proclamation 8031, other applicable law and agency policies and standard operating procedures.

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**Conclusion.** Upon consideration of the permit to be approved by the Board of Land and Natural Resources, the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200 HAR, have been determined to be of probable minimal or no significant effect on the environment and exempt from the preparation of an environmental assessment.

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Laura H. Thielen  
Board of Land and Natural Resources

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Date

**Papahānaumokuākea Marine National Monument**  
**RESEARCH Permit Application**

***NOTE: This Permit Application (and associated Instructions) are to propose activities to be conducted in the Papahānaumokuākea Marine National Monument. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, provide all information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Papahānaumokuākea Marine National Monument (Monument).***

**ADDITIONAL IMPORTANT INFORMATION:**

- Any or all of the information within this application may be posted to the Monument website informing the public on projects proposed to occur in the Monument.
- In addition to the permit application, the Applicant must either download the Monument Compliance Information Sheet from the Monument website OR request a hard copy from the Monument Permit Coordinator (contact information below). The Monument Compliance Information Sheet must be submitted to the Monument Permit Coordinator after initial application consultation.
- Issuance of a Monument permit is dependent upon the completion and review of the application and Compliance Information Sheet.

**INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED**

Send Permit Applications to:

Papahānaumokuākea Marine National Monument Permit Coordinator

6600 Kalaniana'ole Hwy. # 300

Honolulu, HI 96825

[nwhipermmit@noaa.gov](mailto:nwhipermmit@noaa.gov)

PHONE: (808) 397-2660      FAX: (808) 397-2662

**SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, SEE THE LAST PAGE.**

## **Papahānaumokuākea Marine National Monument Permit Application Cover Sheet**

This Permit Application Cover Sheet is intended to provide summary information and status to the public on permit applications for activities proposed to be conducted in the Papahānaumokuākea Marine National Monument. While a permit application has been received, it has not been fully reviewed nor approved by the Monument Management Board to date. The Monument permit process also ensures that all environmental reviews are conducted prior to the issuance of a Monument permit.

### **Summary Information**

**Applicant Name:** Jay Barlow, PhD and Erin Oleson, PhD

**Affiliation:** NOAA National Marine Fisheries Service

**Permit Category:** Research

**Proposed Activity Dates:** 24 August 2010 through 27 November 2010

**Proposed Method of Entry (Vessel/Plane):** Vessels: NOAA Ship McArthur II and NOAA Ship Oscar Elton Sette

**Proposed Locations:** All waters of the PNMN surrounding all 10 islands/atolls

**Estimated number of individuals (including Applicant) to be covered under this permit:**

NOAA Ship McArthur II: 24 scientists and 24 Officers and Crew; NOAA Ship Sette: 18 Scientists and 22 Officers and Crew

**Estimated number of days in the Monument:** Maximum possible days: NOAA Ship McArthur II: 96; NOAA Ship Sette: 55

**Description of proposed activities:** (complete these sentences):

a.) The proposed activity would...

The primary goal of this expedition will be to estimate the abundance and distribution of cetaceans within the Hawaiian EEZ using visual and acoustic methods. Concurrent with the abundance estimation, the expedition will conduct an ecosystem assessment of their habitat.

b.) To accomplish this activity we would ....

The 2010 Hawaiian Archipelago Cetaceans and Ecosystem Assessment Survey (HICEAS) is a marine mammal assessment survey of the Exclusive Economic Zone (EEZ) of Hawaiian waters out to a distance of approximately 200 nautical miles. The primary objectives of HICEAS are to estimate the abundance and to understand the distribution of dolphins and whales in the Hawaiian EEZ using visual and acoustic survey methods. A secondary objective is to characterize the pelagic ecosystem within the study area, through the collection of underway and station-based physical and biological oceanographic sampling, studies of mid-trophic level organisms (using net sampling and acoustic backscatter methods) and research on non-protected

apex predators (seabirds). A final objective is to conduct biopsy sampling and photo-identification studies of cetacean species of special interest.

c.) This activity would help the Monument by ...

The two-ship cetacean assessment survey is necessary to evaluate the status of the cetaceans within the EEZ of the Hawaiian Islands for Marine Mammal Stock Assessments as mandated by the Marine Mammal Protection Act, Endangered Species Act and the National Marine Sanctuaries Act. This survey would provide new abundance estimates which will allow NMFS to meet its MMPA mandate to write Stock Assessment Reports for US EEZ waters. Data on sperm whales and other endangered large whales will contribute to ESA Status Reviews for those species. Identification of possible insular endemic populations of cetaceans will contribute to their conservation and preservation.

**Other information or background:** The HICEAS project is in the process of establishing a long-term data series; the original survey took place in 2002. The research comprises mainly non-lethal and non-invasive visual and passive acoustic surveys. Minimal samples of zooplankton will be collected to help define cetacean habitat.

## **Section A - Applicant Information**

### **1. Applicant**

Name (last, first, middle initial): Barlow, Jay P. and Oleson, Erin M

Title: Dr. Barlow: Program Lead, EEZ Mammals and Acoustics; Southwest Fisheries Science Center; NOAA National Marine Fisheries Service

Dr. Oleson: Research Ecologist, Marine Mammal Research Program; Pacific Islands Fisheries Science Center; NOAA National Marine Fisheries Service

#### **1a. Intended field Principal Investigator (See instructions for more information):**

Dr. Barlow: Program Lead, EEZ Mammals and Acoustics; Southwest Fisheries Science Center; NOAA National Marine Fisheries Service

Dr. Oleson: Research Ecologist, Marine Mammal Research Program; Pacific Islands Fisheries Science Center; NOAA National Marine Fisheries Service

### **2. Mailing address (street/P.O. box, city, state, country, zip):**

[REDACTED]

[REDACTED]

Phone:

[REDACTED]

Fax:

[REDACTED]

Email:

[REDACTED]

For students, major professor's name, telephone and email address: N/A

**3. Affiliation (institution/agency/organization directly related to the proposed project):**

Dr. Barlow: Protected Resources Division; Southwest Fisheries Science Center; NOAA National Marine Fisheries Service

Dr. Oleson: Marine Mammal Research Program; Pacific Islands Fisheries Science Center; NOAA National Marine Fisheries Service

**4. Additional persons to be covered by permit. List all personnel roles and names (if known at time of application) here (e.g. John Doe, Research Diver; Jane Doe, Field Technician):**

NOAA Ship McArthur II:

Jay Barlow, Chief Scientist, [REDACTED]  
Lisa Balance, Cruise Leader, [REDACTED]  
Karin Forney, Cruise Leader, [REDACTED]  
Barbara Taylor, Cruise Leader, [REDACTED]  
James Cotton, Marine Mammal Observer, [REDACTED]  
Richard Rowlett, Marine Mammal Observer, [REDACTED]  
Cornelia Oedekoven, Marine Mammal Observer, [REDACTED]  
Three (3) additional Marine Mammal Observers TBD, will complete in the Compliance Logistic sheet  
Michael Force, Seabird Observer, [REDACTED]  
Sophia Webb, Seabird Observer, [REDACTED]  
Acoustician TBD, will complete in the Compliance Logistic sheet  
Two (2) Acoustic Technicians TBD, will complete in the Compliance Logistic sheet  
Justin Garver, Oceanographer, [REDACTED]  
Corey Sheredy, Oceanographer, [REDACTED]  
Candice Hall, Oceanographer, [REDACTED]  
Five (5) Visiting Scientists TBD (one per leg), will complete in the Compliance Logistic sheet

NOAA Ship Oscar Elton Sette

Erin Oleson, Chief Scientist, [REDACTED]  
Marie Hill, Cruise Leader, [REDACTED]  
Allan Ligon, Marine Mammal Observer, [REDACTED]  
Six (6) Marine Mammal Observers TBD, will complete in the Compliance Logistic sheet  
Two (2) Seabird Observers TBD, will complete in the Compliance Logistic sheet

Acoustician TBD, will complete in the Compliance Logistic sheet

Two (2) Acoustic Technicians TBD, will complete in the Compliance Logistic sheet

Corey Sheredy, Oceanographer, [REDACTED]

Four (4) Visiting Scientists TBD (up to two per leg), will complete in the Compliance Logistic sheet



## **Section B: Project Information**

### **5a. Project location(s):**

<input checked="" type="checkbox"/> Nihoa Island	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Necker Island (Mokumanamana)	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> French Frigate Shoals	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Gardner Pinnacles	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Maro Reef			
<input checked="" type="checkbox"/> Laysan Island	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Lisianski Island, Neva Shoal	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Pearl and Hermes Atoll	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Midway Atoll	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Kure Atoll	<input type="checkbox"/> Land-based	<input checked="" type="checkbox"/> Shallow water	<input checked="" type="checkbox"/> Deep water
<input type="checkbox"/> Other			

NOTE: There is a fee schedule for people visiting Midway Atoll National Wildlife Refuge via vessel and aircraft.

### **Location Description:**

Marine mammal surveys are conducted using line-transect methodology. The survey lines have been designed to cover uniformly the waters within the 200 nm EEZ around the entire Hawaiian Island chain from the Island of Hawaii in the southeast to the Kure Atoll in the Northwest Hawaiian Islands. The tracklines are a set of parallel transect lines oriented along a WNW and ESE direction to avoid the dominant swells generated by the NE to Easterly Trade Winds (see figure 1 attached). The ships will not approach closer than 1 mile from the 10-fathom isobath of any island or shoal (other than Midway). Small boats may approach closer if animals are seen from the ship, but no one will set foot on any island (other than Midway).

It may occasionally be necessary to divert the ship's course from the established trackline during regular effort due to glare or adverse sea conditions or a sighting in order for observers to make estimates of school size. When the observers have completed scientific operations for the sighting, the ship will resume the same course and speed as prior to the sighting.

### **5b. Check all applicable regulated activities proposed to be conducted in the Monument:**

- ☒ Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource
- ☐ Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands
- ☐ Anchoring a vessel
- ☐ Deserting a vessel aground, at anchor, or adrift
- ☒ Discharging or depositing any material or matter into the Monument
- ☐ Touching coral, living or dead

- ☐ Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
- ☐ Attracting any living Monument resource
- ☐ Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)
- ☐ Subsistence fishing (State waters only)
- ☐ Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

**6 Purpose/Need/Scope *State purpose of proposed activities:***

The purpose of the two-ship cetacean assessment survey is to evaluate the status of the cetaceans within the EEZ of the Hawaiian Islands for Marine Mammal Stock Assessments as mandated by the Marine Mammal Protection Act, Endangered Species Act and the National Marine Sanctuaries Act. This survey will allow NMFS to meet its MMPA mandate to write Stock Assessment Reports for US EEZ waters. Data on sperm whales and other endangered large whales will contribute to ESA Status Reviews for those species. Identification of possible insular endemic populations of cetaceans will contribute to their conservation and preservation.

**7. Answer the Findings below by providing information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Monument:**

The Findings are as follows:

- a. How can the activity be conducted with adequate safeguards for the cultural, natural and historic resources and ecological integrity of the Monument?

The survey will be conducted with adequate safeguards for the cultural, natural and historic resources and ecological integrity of the PMNM. This project is a continuing effort to provide cetacean abundance estimates within an ecosystem approach to management framework for the EEZ of Hawaii. The main survey methods, visual and acoustic, and most ecosystem projects are non-invasive and non-lethal; marine mammal skin biopsy and oceanographic net tows are designed to be minimally invasive and non-lethal.

To safeguard the cultural resources of the Monument, all personnel will attend a Hawaiian Cultural Briefing prior to entering Monument waters. This education instills the awareness of the natural, cultural, and historic values the Monument holds. Also, the NOAA vessels have informative cultural literature provided by the Office of Hawaiian Affairs (OHA) and the Monument for personnel seeking further knowledge or who may not be able to attend the briefings.

- b. How will the activity be conducted in a manner compatible with the management direction of this proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument cultural, natural and historic resources, qualities, and ecological integrity, any indirect, secondary, or cumulative effects of the activity, and the duration of such effects?

The proposed activities will have minimal impact on the Monument and its resources. The research is primarily non-invasive visual and passive acoustic surveys. This research is in concert with the objectives of the NOAA Management Plan for PMNM.

- c. Is there a practicable alternative to conducting the activity within the Monument? If not, explain why your activities must be conducted in the Monument.

There is no practical alternative to conducting the two-ship survey within the Monument because the Monument is a considerable portion of the Hawaiian Island EEZ. Further, the survey must

take place inside the Monument waters in order to obtain an estimate of marine mammals in the area as well as characterize their habitat.

d. How does the end value of the activity outweigh its adverse impacts on Monument cultural, natural and historic resources, qualities, and ecological integrity?

The proposed activities have been identified as vital to the management of the Monument's natural resources in its Management Plan and will have no adverse impact on its natural and historic resources, qualities, and ecological integrity.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose.

The vast majority of the survey will be conducted in passing mode, which is a transit through the PMNM at 10kts. Oceanographic sampling requires a station stop of approximately 2.5 hrs daily to conduct a CTD (conductivity, temperature, depth) and perform two net tows: manta net tow (surface) for 15 minutes and a bongo net tow (to a depth of 200m) for 15 minutes.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.

All scientific personnel participating on the research survey have extensive survey experience including working in National Marine Sanctuaries, including Hawaiian sanctuaries.

g. Provide information demonstrating that you have adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.

This cruise is supported by 120 seadays aboard NOAA Ship McArthur II and 55 seadays aboard NOAA ship Oscar Sette from the NOAA Office of Marine and Aviation Operations. The funding for the science is being underwritten by the Southwest Fisheries Science Center and the Pacific Islands Fisheries Science Center, of the US Department of Commerce, NOAA National Marine Fisheries Service.

h. Explain how your methods and procedures are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument cultural, natural and historic resources, qualities, and ecological integrity.

The research consists primarily of non-invasive visual and acoustic surveys. A limited number of plankton samples will be collected and expendable bathythermographs (XBTs) will be dropped to characterize cetacean habitat. If large whales are seen in PMNM, sonobuoys may be dropped to record their vocalization.

i. Has your vessel has been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Presidential Proclamation 8031?

NOAA Ship Sette has been equipped with NOAA OLE vessel monitoring systems; NOAA Ship McArthur II is in the process of obtaining one prior to sailing in the PMNM.

j. Demonstrate that there are no other factors that would make the issuance of a permit for the activity inappropriate.

There are no other factors that would make the issuance of a permit for these activities inappropriate.

## **8. Procedures/Methods:**

Aboard each vessel:

- a. Line transect survey methods will be used to collect abundance data along a designated trackline aboard the NOAA ship McArthur II. A daily watch for cetaceans will be maintained on the flying bridge during daylight hours by six mammal observers using 25x150 binoculars.
- b. Passive acoustics using towed hydrophones will be used to improve marine mammal abundance estimates and to locate and record marine mammals. An occasional sonobuoy may be deployed if large whales are in the area.
- c. Biopsy samples for genetic analyses of marine mammals will be collected on an opportunistic basis. The animals to be sampled will be approached by the research vessel during normal survey operations, will approach the vessel on their own or will be approached by a small boat. Samples will be collected, from animals within 10 m to 30 m of the bow of the vessel, using a dart fired from a crossbow.
- d. Photographs of marine mammals will be taken on an opportunistic basis. These will be used to study social behavior and movement patterns of identified individuals, and to study geographic variation. The animals to be photographed will be approached by the research vessel during normal survey operations, will approach the vessel on their own, or will be approached by a small boat.
- e. Marine mammal body parts may be salvaged from dead floating or stranded specimens on an opportunistic basis at the discretion of the Cruise Leader. This includes whale and dolphin ivory and carcasses. All marine mammal specimens obtained will be archived at the SWFSC but may be released on extended loan to recognized research institutions according to existing guidelines.
- f. Visual surveys of seabirds will be conducted from the flying bridge during daylight hours by two seabird observers. Seabird observers will use handheld and 25x150 binoculars.
- g. Active acoustic surveys using a scientific EK-60 depth sounder, operated continuously, at 38, 70, 120 and 200 KHz, will be interfaced to a data acquisition system to estimate micronekton biomass between 0 and 500m.
- h. Oceanographic sampling during the day while underway will include four XBT drops per day, surface water sampling for chlorophyll a analysis and temperature and continuous thermosalinograph (surface water temperature and salinity) sampling. After sunset, one CTD cast will be conducted. The CTD cast will be followed by two net tows, manta and bongo, each for 15 minutes.
- i. Fish and cephalopods will be collected on an opportunistic basis at the discretion of the Cruise Leader. Hook-and-line gear and dipnets may be used. Fish and cephalopods will be measured, sexed, and stomach contents will be examined and recorded by scientific personnel. Small squid (<30cm DML) will be frozen for workup at the lab.

**NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding, as a customized application will be needed. For more information, contact the Monument office on the first page of this application.**

**9a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):**

Common name:

**SKIN BIOPSY SAMPLES**

Common name	Scientific name	Maximum take
Minke whale	<i>Balaenoptera acutorostrata</i>	20
Sei whale	<i>Balaenoptera borealis</i>	15
Bryde's whale	<i>Balaenoptera edeni</i>	15
Blue whale	<i>Balaenoptera musculus</i>	10
Fin whale	<i>Balaenoptera physalus</i>	20
Pygmy killer whale	<i>Feresa attenuata</i>	30
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	30
Risso's dolphin	<i>Grampus griseus</i>	20
Longman's beaked whale	<i>Indopacetus pacificus</i>	10
Pygmy sperm whale	<i>Kogia breviceps</i>	5
Dwarf sperm whale	<i>Kogia sima</i>	5
Fraser's dolphin	<i>Lagenodelphis hosei</i>	20
Humpback whale	<i>Megaptera novaeangliae</i>	20
Mesoplodon beaked whale	<i>Mesoplodon sp.</i>	15
Killer whale	<i>Orcinus orca</i>	20
Melon-headed whales	<i>Peponocephala electra</i>	50
Sperm whale	<i>Physeter macrocephalus</i>	50
False killer whale	<i>Pseudorca crassidens (offshore)</i>	50
Spotted dolphin	<i>Stenella attenuata</i>	20
Striped dolphin	<i>Stenella coeruleoalba</i>	50
Spinner dolphin	<i>Stenella longirostris</i>	50
Rough-toothed dolphin	<i>Steno bredanensis</i>	30
Bottlenose dolphin	<i>Tursiops truncatus</i>	50
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	10

Note: The maximum number of biopsy samples planned to be collected will not be exceeded under any conditions. From past experience, the ultimate number will be much lower, and will not include all the species listed.

**Bongo tow net estimated collection:**

Scientific Name	Common Name	Estimated take
<i>Abraliopsis</i> spp.	<i>Abraliopsis</i> spp.	65
<i>Ahliesaurus brevis</i>	<i>Ahliesaurus brevis</i>	8
<i>Anguilliformes</i>	Eels	9
<i>Anthiinae</i>	<i>Anthiinae</i>	6
<i>Argyropelecus</i> spp.	<i>Argyropelecus</i> spp.	54

Benthoosema suborbitale	Benthoosema suborbitale	100
Bolinichthys spp.	Pipefishes	100
Bregmaceros spp.	Bregmaceros spp.	54
Callionymidae	Dragonets	18
Ceratoscopelus warmingii	Ceratoscopelus warmingii	543
Chtenopteryx sicula	Comb-finned squid	6
Cyclothone spp.	Cyclothone spp.	744
Diaphus spp.	Headlightfishes	486
Diogenichthys atlanticus	Longfin lanternfish	81
Diplophos taenia	Diplophos taenia	11
Diplospinus multistriatus	Ribbon snake mackerel	21
Disintegrated fish larvae	Disintegrated fish larvae	100
Dolicholagus longirostris	Longsnout blacksmelt	9
Encrasicholina punctifer	Buccaneer anchovy	413
Engyprosopon spp.	Engyprosopon spp.	18
Evermannella indica	Sabertooth	16
Gempylus serpens	Snake Mackerel	18
Gobiidae	Gobies	17
Gonostoma atlanticum	Atlantic fangjaw	54
Howella spp.	Pelagic basslet	21
Hyaloteuthis pelagica	Glass squid	15
Hygophum proximum	Hygophum proximum	166
Hygophum reinhardtii	Slender lanternfish	94
Idiacanthus fasciola	Idiacanthus fasciola	43
Katsuwonus pelamis	Skipjack tuna	14
Labridae	Wrasses	61
Lampadena spp.	Lampfishes	21
Lampadena urophaos	Sunbeam lampfish	31
Lampanyctus nobilis	Lampanyctus nobilis	29
Lampanyctus tenuiformis	Lampanyctus tenuiformis	23
Lestidiops indopacifica	Lestidiops indopacifica	9
Lestidiops spp.	Lestidiops spp.	31
Lestidium spp.	Lestidium spp.	20
Lobianchia gemellarii	Lobianchia gemellarii	43
Magnisudis atlantica	Duckbill barracudina	21
Melamphaes spp.	Melamphaes spp.	16
Melanostomiinae	Scaleless dragonfishes	11
Myctophidae	Lanternfishes	196
Myctophum nitidulum	Pearly lanternfish	8
Myctophum selenops	Myctophum selenops	7
Myctophum spp.	Myctophum spp.	46
Nannobranchium hawaiiensis	Nannobranchium hawaiiensis	12
Nannobranchium spp.	Nannobranchium spp.	74
Notolychnus valdiviae	Topside lampfish	85
Octopoteuthis nielsenii	Octopoteuthis nielsenii	11

Onychoteuthis compacta	Onychoteuthis compacta	6
Onychoteuthis spp.	Onychoteuthis spp.	11
Paralepididae	Barracudinas	36
Parapercis spp.	Parapercis spp.	9
Ptereleotris heteroptera	Indigo dartfish	40
Pterygioteuthis giardi	Roundear enope squid	17
Pyroteuthis addolux	Pyroteuthis addolux	9
Scaridae	Parrotfishes	11
Scombrabrax heterolepis	Black mackerel	7
Scopelarchus analis	Blackbelly pearleye	34
Scopelarchus spp.	Pearleyes	37
Scorpaenidae	Scorpionfishes	11
Sigmops elongatum	Elongated bristlemouth fish	50
Sigmops spp.	Sigmops spp.	16
Sternoptyx spp.	Dollar hatchetfishes	68
Sthenoteuthis oualaniensis	Purpleback squid	47
Sudis atrox	Hideous barracudina	19
Symbolophorus evermanni	Evermann's lanternfish	67
Synodus spp.	Synodus spp.	17
Triphoturus nigrescens	Highseas lampfish	18
Unidentified	Unidentified	714
Valenciennellus tripunctulatus	Constellationfish	31
Vinciguerrria nimbaria	Oceanic lightfish	1133
Vinciguerrria poweriae	Highseas lightfish	156
Vinciguerrria spp.	Vinciguerrria spp.	19

Manta tow estimated collection:

Scientific name	Common name	Estimated take
Ceratoscopelus warmingii	Ceratoscopelus warmingii	19
Cyclothone spp.	Cyclothone spp.	111
Diaphus spp.	Headlightfishes	53
Encrasicholina punctifer	Buccaneer anchovy	27
Myctophidae	Lanternfishes	7
Pterygioteuthis giardi	Roundear enope squid	13
Pyroteuthidae	Pyroteuthidae	13
Sthenoteuthis oualaniensis	Purpleback squid	96
Tremoctopus violaceus	Common blanket octopus	9
Unidentified	Unidentified	1536
Vinciguerrria nimbaria	Oceanic lightfish	29

Scientific name:

SEE TABLE ABOVE



# & size of specimens:

Number of specimens: SEE TABLE ABOVE

Biopsy: the maximum number of biopsy samples planned to be collected will not be exceeded under any conditions and is presented in the table above. From past experience, the ultimate number will be much lower, and will not include all the species listed. The size of each biopsy sample is a small amount (approx. 1 cm<sup>2</sup>) of skin and blubber.

No more than one gallon volume of plankton will be collected from any one tow. Plankton and nekton species are larval species. The number of specimens in the table above is based on the 2002 HICEAS manta and bongo tows; the actual number of each species is likely to vary considerably.

Collection location:

The waters of the PMNM

☒ Whole Organism ☒ Partial Organism

**9b. What will be done with the specimens after the project has ended?**

Biopsy samples will be archived at the SWFSC; plankton samples will be stored at the Scripps Institution of Oceanography, La Jolla, CA; most squid and fish samples will be disposed of after data collection.

**9c. Will the organisms be kept alive after collection?** ☐ Yes ☒ No

Collected organisms will consist of plankton, fish and squid. Planktonic samples will be preserved in formalin or frozen, labeled, and stored until the vessel returns to San Diego where they will be sorted and identified; fish and squid will be worked up at sea or in the lab at San Diego.

• General site/location for collections:

Samples will be collected in the waters of the PMNM along the tracklines proposed for HICEAS. The actual location on the trackline of the sample collection will depend on weather and other events. Tracklines are shown in Figure 1.

• Is it an open or closed system? ☒ Open ☐ Closed

N/A

• Is there an outfall? ☐ Yes ☐ No

N/A

• Will these organisms be housed with other organisms? If so, what are the other organisms?

No.

- Will organisms be released?

N/A

**10. If applicable, how will the collected samples or specimens be transported out of the Monument?**

Biopsy, fish and squid samples will be frozen and plankton samples will be preserved in formalin to be transported out of the Monument via NOAA ships McArthur II and Sette.

**11. Describe collaborative activities to share samples, reduce duplicative sampling, or duplicative research:**

The biopsy samples will be stored at the Southwest Fisheries Science Center in order to perform genetic and steroid analyses in our laboratory for the stock structure studies, and to determine sex and pregnancy rates when appropriate. Results of these studies will be made available to interested Institutions, and extracted DNA will be available to your scientists upon request. Plankton samples will be sorted and identified to the lowest taxon possible. Cruise Summaries and Data Reports are standard components of SWFSC cruise documentation. All reports and publications are available upon request. All results published by NOAA / NMFS / SWFSC are public record.

**12a. List all specialized gear and materials to be used in this activity:**

Fujinon 25X binoculars will be used for detecting marine mammals. Hand-held binoculars will be used for sighting birds, turtles, and other animals. Fluorometers, echosounders, bathythermographs, thermosalinographs, salinometers, and conductivity temperature and depth (CTD) devices will be used for collecting oceanographic data. Water samples will be collected to obtain the necessary oceanographic information. Cameras will be used to verify the identification of the encountered marine mammals. Small boats will be launched from the ship to allow individual identification photographs to be taken of selected species of cetaceans and to collect skin biopsy samples. Crossbows will be used to collect the skin samples. Nets will be used to obtain plankton and micronekton samples. Sonobuoys may be deployed to obtain recordings of marine mammal vocalizations. A passive (receive-only) acoustic array will be towed approximately 300 meters behind the ship to record sounds made by dolphins and whales. Satellite tags may be deployed on cetaceans.

**12b. List all Hazardous Materials you propose to take to and use within the Monument:**

Formalin as a preservative and sodium borate will be used as preservatives to fix net tow samples; acetone and hydrochloric acid will be used for chlorophyll extractions; ethanol and Triton X 100 will be used to clean portasal.

**13. Describe any fixed installations and instrumentation proposed to be set in the Monument:**

N/A

**14. Provide a time line for sample analysis, data analysis, write-up and publication of information:**

A NOAA Technical Memorandum regarding sample and data analysis is anticipated to be published within a year after survey end (December 11, 2011).

**15. List all Applicants' publications directly related to the proposed project:**

Peer-reviewed Journal Publications:

Baird, R.W., D.J. McSweeney, C. Bane, J. Barlow, D.R. Salden, L.K. Antoine, R.G. LeDuc, and D.L. Webster. 2006. Killer whales in Hawaiian waters: Information on population identity and feeding habits. *Pacific Science* 60(4):523-530.

Baird, R.W., D.L. Webster, D.J. McSweeney, A.D. Ligon, G.S. Schorr, and J. Barlow. 2006. Diving behavior of Cuvier's (*Ziphius cavirostris*) and Blainville's beaked whales (*Mesoplodon densirostris*) in Hawai'i. *Canadian J. Zoology* 84:1120-1128.

Barlow, J., and P. J. Clapham. 1997. A new birth-interval approach to estimating demographic parameters of humpback whales. *Ecology* 78(2):535-546.

Barlow, J., T. Gerrodette, and J. Forcada. 2001. Factors affecting perpendicular sighting distances on shipboard line-transect surveys for cetaceans. *Journal of Cetacean Research and Management* 3(2):201-212.

Barlow, J. and B.T. Taylor. 2005. Estimates of sperm whale abundance in the northeastern temperate Pacific from a combined acoustic and visual survey. *Marine Mammal Science* 21(3):429-445.

Barlow, J. 2006. Cetacean abundance in Hawaiian waters estimated from a summer/fall survey in 2002. *Marine Mammal Science* 22(2):446-464.

Norris, T.F., M.F. McDonald, and J. Barlow. 1999. Acoustic detections of singing humpback whales (*Megaptera novaeangliae*) in the eastern North Pacific during their northbound migration. *J. Acoust. Soc. Am.* 106(1):506-514.

Oswald, J.N., S. Rankin, and J. Barlow. 2008. To whistle or not to whistle? Geographic variation in the whistling behavior of small odontocetes. *Aquatic Mammals* 34(3):288-302.

Oswald, J.N., S. Rankin, J. Barlow, and M.O. Lammers. 2007. A tool for real-time acoustic species identification of delphinid whistles. *J. Acoust. Soc. Am.* 122(1):587-595.

Oswald, J.N., S. Rankin, and J. Barlow. 2007. First descriptions of whistles of Pacific Fraser's dolphins *Lagenodelphis hosei*. *Bioacoustics* 16:99-111.

Rankin, S. and J. Barlow. 2007. Vocalizations of the sei whale *Balaenoptera borealis* off the Hawaiian Islands. *Bioacoustics* 16:137-145.

Rankin, S. and J. Barlow. 2007. Sounds recorded in the presence of Blainsville's beaked whales, *Mesoplodon densirostris*, near Hawai'i, J. Acoustical Society of America 122(1):42-45.

Rankin, S. and J. Barlow. 2005. Source of the North Pacific "boing" sound attributed to minke whales. J. Acoust. Soc. Am. 118(5):3346-3351.

Redfern, J.V., M.C. Ferguson, E.A. Becker, K.D. Hyrenbach, C. Good, J. Barlow, K. Kaschner, M.F. Baumgartner, K.A. Forney, L.T. Ballance, P. Fauchald, P. Halpin, T. Hamazaki, A.J. Pershing, S.S. Qian, A. Read, S.B. Reilly, L. Torres, and F. Werner. 2006. Techniques for cetacean-habitat modeling. Marine Ecology Progress Series 310:271-295.

#### NOAA Technical Memoranda, Contract, and Cruise Reports

Barlow, J., S. Swartz, T. Eagle, and P. R. Wade. 1995. U.S. marine mammal stock assessments: Guidelines for preparation, background, and a summary of the 1995 assessments. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-219, 162 pp.

Barlow, J., S. Rankin, E. Zele, and J. Appler. 2004. Marine mammal data collected during the Hawaiian Islands Cetacean and Ecosystem Assessment Survey (HICEAS) conducted aboard the NOAA ships McArthur and David Starr Jordan, July - December 2002. U.S. Department of Commerce, NOAA Technical Memorandum, NMFS-SWFSC-362. 39 p.

Barlow, J., S. Rankin, and S. Dawson. 2008. A guide to constructing hydrophones and hydrophone arrays from monitoring marine mammal vocalizations. February 2008. U.S. Department of Commerce, NOAA Technical Memorandum, NMFS-SWFSC-417. 19p.

Barlow, J., S. Rankin, A. Jackson, and A. Henry. 2008. Marine mammal data collected during the Pacific Islands Cetacean and Ecosystem Assessment Survey (PICEAS) conducted aboard the NOAA ship McArthur II, July - November 2005. U.S. Department of Commerce, NOAA Technical Memorandum, NMFS-SWFSC-420. 27 p.

Rankin, S., J. Barlow, J. Oswald, and L. Ballance. 2008. Acoustic studies of marine mammals during seven years of combined visual and acoustic line-transect surveys for cetaceans in the eastern and central Pacific Ocean. U.S. Department of Commerce, NOAA Technical Memorandum, NMFS-SWFSC-429. 69 p.

#### La Jolla Laboratory Administrative Reports

Barlow, J. 2003. Cetacean abundance in Hawaiian waters during summer/fall 2002. Southwest Fisheries Science Center Administrative Report LJ-03-13. Available from SWFSC, 8604 La Jolla Shores Drive, La Jolla, CA 92037. 20 p.

Barlow, J. and S. Rankin. 2007. False Killer Whale Abundance and Density: Preliminary Estimates for the PICEAS Study Area South of Hawaii and New Estimates for the US EEZ Around Hawaii. Southwest Fisheries Science Center Administrative Report LJ-07-02. Available from SWFSC, 8604 La Jolla Shores Drive, La Jolla, CA 92037. 15p.



With knowledge of the penalties for false or incomplete statements, as provided by 18 U.S.C. 1001, and for perjury, as provided by 18 U.S.C. 1621, I hereby certify to the best of my abilities under penalty of perjury of that the information I have provided on this application form is true and correct. I agree that the Co-Trustees may post this application in its entirety on the Internet. I understand that the Co-Trustees will consider deleting all information that I have identified as "confidential" prior to posting the application.

---

Signature

Date

**SEND ONE SIGNED APPLICATION VIA MAIL TO THE MONUMENT OFFICE BELOW:**

Papahānaumokuākea Marine National Monument Permit Coordinator  
6600 Kalaniana'ole Hwy. # 300  
Honolulu, HI 96825  
FAX: (808) 397-2662

**DID YOU INCLUDE THESE?**

- ☒ Applicant CV/Resume/Biography
- ☒ Intended field Principal Investigator CV/Resume/Biography
- ☒ Electronic and Hard Copy of Application with Signature
- ☐ Statement of information you wish to be kept confidential
- ☒ Material Safety Data Sheets for Hazardous Materials

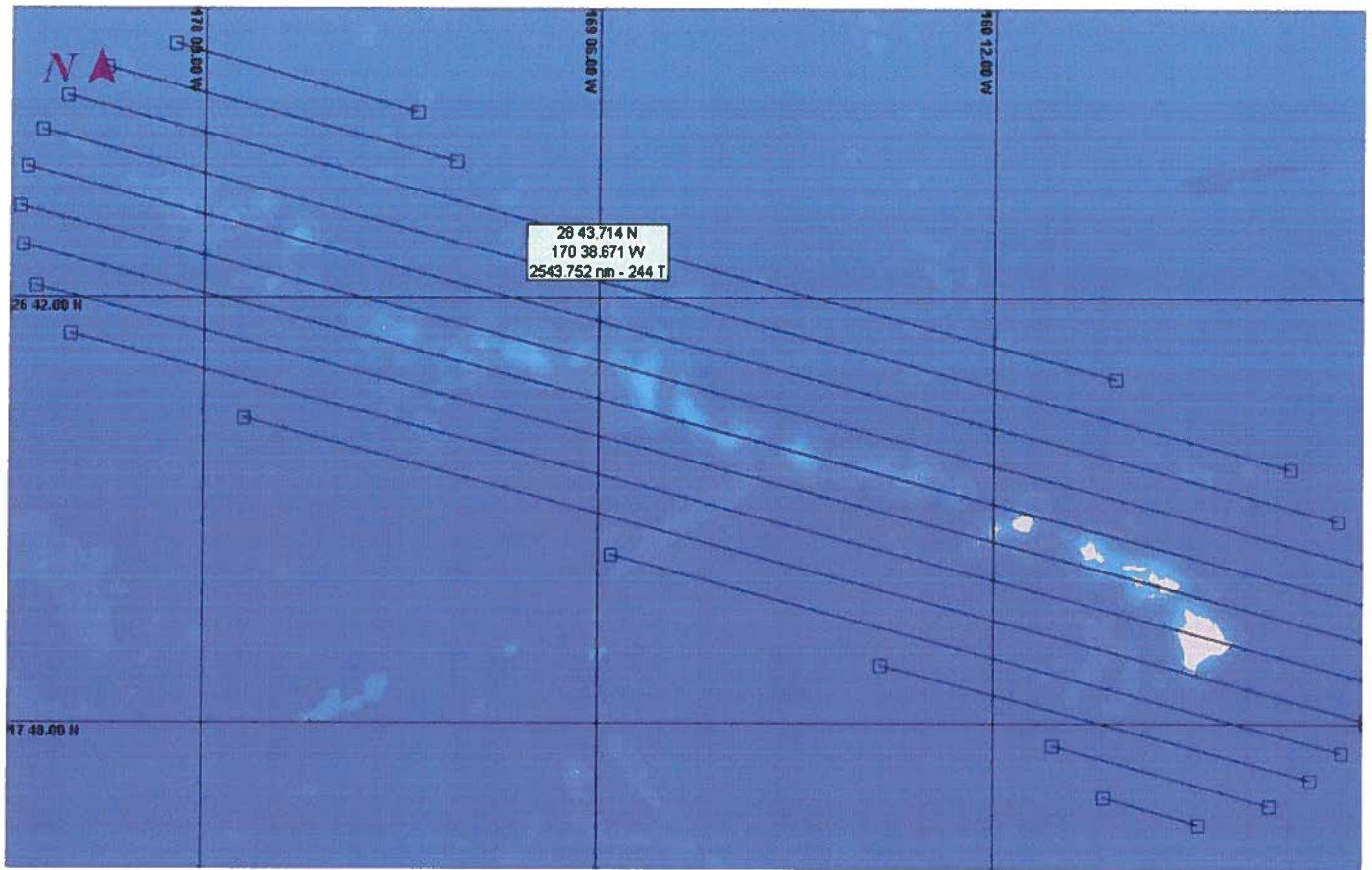


Figure 1. Geographic representation of transect lines to be conducted on HICEAS: Hawaiian Archipelago Cetacean Abundance and Ecosystem Survey.





## **Papahānaumokuākea Marine National Monument Compliance Information Sheet**

**1. Updated list of personnel to be covered by permit. List all personnel names and their roles here (e.g. John Doe, Diver; Jane Doe, Field Technician, Jerry Doe, Medical Assistant):**

**NOAA Ship McArthur II:**

Lisa Balance, Cruise Leader, Leg 3  
Karin Forney, Cruise Leader, Leg 2  
Barbara Taylor, Cruise Leader, Leg 4  
James Cotton, Marine Mammal Observer  
Richard Rowlett, Marine Mammal Observer  
Desray Reeb, Marine Mammal Observer  
Christopher Cutler, Marine Mammal Observer  
Suzanne Yin, Marine Mammal Observer  
Rachel Struch, Marine Mammal Observer  
Sophia Webb, Seabird Observer  
Michael Force, Seabird Observer  
Cornelia Oedekoven, Acoustician  
Justin Garver, Oceanographer  
Candice Hall, Oceanographer  
Eiren Jacobson, Acoustician  
Tina Yack, Acoustician  
Anne Simonis, Acoustician  
Danielle Cholewiak, Acoustician  
Amanda Cummins, Acoustician  
Matthew Leslie, SIO graduate student and visiting scientist  
Cotton Rockwood, SIO graduate student and visiting scientist  
Robert Pitman, Marine Mammal Expert

**NOAA Ship Oscar Elton Sette**

Erin Oleson, Chief Scientist  
Marie Hill, Cruise Leader  
Allan Ligon, Marine Mammal Observer  
Juan Carlos Salinas, Marine Mammal Observer  
Ernesto Vazquez, Marine Mammal Observer  
Adam Ü, Marine Mammal Observer  
Abbie Sloan, Marine Mammal Observer  
Andrea Bendlin, Marine Mammal Observer  
Mark Deakos, Marine Mammal Observer  
Dawn Breese, Seabird Observer  
Gregory Scott Mills, Seabird Observer

Yvonne Barkley, Acoustician  
Susannah Calderan, Acoustician  
Nicky Beaulieu, Acoustician  
Corey Sheredy, Acoustician  
Donna Knutson, Acoustician  
Alyson Fleming, Acoustician  
Hannah Bassett, Acoustician  
Corey Sheredy, Acoustician  
Jamie Barlow, Small Boat Expert, Coxswain  
Summer Martin, SIO graduate student and visiting scientist  
Donna Knutson, Visiting Scientist from NOAA Teacher-at-sea Program

**2. Specific Site Location(s): (Attach copies of specific collection locations):**

Samples will be collected along line-transects as attached as well as during circumnavigation of islands and mounts

**3. Other permits (list and attach documentation of all other related Federal or State permits):**

**Permits**

- I. Permit No. 14097: Scientific Research Permit to Take Marine Mammals and Reptiles
- II. CITES Permit No. 1OUS77422319: Mammal Import Permit
- III. CITES Permit No. 09US844694/9: Turtle Import Permit
- IV. USFWS Permit No. MB033305-0: Migratory Bird Salvage and Import Permit
- V. State of Hawaii Department of Land and Natural Resources, Aquatic Division – permit application in process
- VI. NOAA Hawaiian Islands Humpback Whale National Marine Sanctuary Permit – permit application in process

**3a. For each of the permits listed, identify any permit violations or any permit that was suspended, amended, modified or revoked for cause. Explain the circumstances surrounding the violation or permit suspension, amendment, modification or revocation.**

N/A

**4. Funding sources (Attach copies of your budget, specific to proposed activities under this permit and include funding sources. See instructions for more information):**

Number of ships: 2; <i>McArthur II</i> / <i>Oscar Elton Sette</i>	Total cost
Days at sea: 120 / 55	(thousands)

CETACEAN ABUNDANCE SAMPLING	354.5
PASSIVE ACOUSTICS	210.9
ECOSYSTEM SAMPLING	378.9
CRUISE LEADER EXPENSES	45.8
BIOPSY SAMPLING	19.5
SUPPLIES, EQUIPMENT, OTHER	21.9
<b>GRAND TOTAL</b>	<b>\$ 1,031.7</b>
FUNDING	
NOAA Fisheries	979.8
US Navy	51.9

##### 5. Time frame:

Activity start: 04 August 2010  
Activity completion: 11 December 2010

Dates actively inside the Monument:  
From: 24 August 2010  
To: 27 November 2010

Describe any limiting factors in declaring specific dates of the proposed activity at the time of application:

The actual dates that the two ships will be working in the Monument are limited by weather and other possible at-sea events.

Personnel schedule in the Monument:  
NOAA Ship *McArthur II*

<b>Beginning Date</b>	<b>08/24/10</b>	<b>09/26/10</b>	<b>10/29/10</b>
<b>Ending Date</b>	<b>09/22/10</b>	<b>10/25/10</b>	<b>11/27/10</b>
<b>Beginning Port</b>	<b>Honolulu</b>	<b>Honolulu</b>	<b>Kahului Harbor</b>
<b>Ending Port</b>	<b>Honolulu</b>	<b>Kahului Harbor</b>	<b>Honolulu</b>
Cruise Leader	Karin Forney	Lisa Balance	Barbara Taylor
Senior Observer	Jim Cotton	Jim Cotton	Jim Cotton
Senior Observer	Richard Rowlett	Richard Rowlett	Richard Rowlett
Mammal Observer	Yin	Yin	Yin
Mammal Observer	Desray Reeb	Desray Reeb	Desray Reeb
Mammal Observer	Christopher Cutler	Christopher Cutler	Christopher Cutler
Mammal Observer	Rachel Struch	Rachel Struch	Rachel Struch
Sr. Seabird Observer	Michael Force	Michael Force	Michael Force
Seabird Observer	Sophie Webb	Sophie Webb	Sophie Webb
Acoustician	Cornelia Oedekoven	Cornelia Oedekoven	Cornelia Oedekoven
Acoustician	Eiren Jacobson	Tina Yack	Joy Stanistreet

<b>Beginning Date</b>	<b>08/24/10</b>	<b>09/26/10</b>	<b>10/29/10</b>
<b>Ending Date</b>	<b>09/22/10</b>	<b>10/25/10</b>	<b>11/27/10</b>
<b>Beginning Port</b>	<b>Honolulu</b>	<b>Honolulu</b>	<b>Kahului Harbor</b>
<b>Ending Port</b>	<b>Honolulu</b>	<b>Kahului Harbor</b>	<b>Honolulu</b>
Acoustician	Anne Simonis	Danielle Cholewiak	Amanda Cummins
Oceanographer	Candice Hall	Justin Garver	Justin Garver
Visiting Scientist	Cotton Rockwood	Robert Pitman	Matt Leslie

*NOAA Ship Oscar Sette*

<b>Beginning Date</b>	<b>09/01/10</b>	<b>10/04/10</b>
<b>Ending Date</b>	<b>09/30/10</b>	<b>10/29/10</b>
<b>Beginning Port</b>	<b>Honolulu</b>	<b>Hilo or Kahului Harbor</b>
<b>Ending Port</b>	<b>Hilo or Kahului Harbor</b>	<b>Honolulu</b>
Cruise Leader	Erin Oleson	Marie Chapla-Hill
Senior Observer	Juan Carlos Salinas	Juan Carlos Salinas
Senior Observer	Ernesto Vazquez	Ernesto Vazquez
Mammal Observer	Allan Ligon	Allan Ligon
Mammal Observer	Adam U	Adam U
Mammal Observer	Abbie Sloan	Abbie Sloan
Mammal Observer	Andrea Bendlin	Mark Deakos
Sr. Seabird Observer	Dawn Breese	Dawn Breese
Seabird Observer	Scott Mills	Scott Mills
Acoustician	Yvonne Barkley	Yvonne Barkley
Acoustician	Susannah Calderan	Susannah Calderan
Acoustician	Nicky Beaulieu	Hannah Bassett
Oceanographer	Corey Sheredy	Corey Sheredy
Visiting Scientist	Donna Knutson	Jamie Barlow
Visiting Scientist	Alyson Fleming	Summer Martin

**6. Indicate (with attached documentation) what insurance policies, bonding coverage, and/or financial resources are in place to pay for or reimburse the Monument trustees for the necessary search and rescue, evacuation, and/or removal of any or all persons covered by the permit from the Monument:**

Please be informed that NOAA, as an agency of the United States government, is self-insured against loss of damage to government property, and the liability of government employees, insofar as the government is legally responsible or would ultimately bear the loss. The Department of Commerce promptly considers and adjudicates, in accordance with applicable federal law, claims which may arise for damages of any nature arising out of a Department act or agreement.

**7. Check the appropriate box to indicate how personnel will enter the Monument:**

- ☒ Vessel  
☐ Aircraft

Provide Vessel and Aircraft information:

NOAA Ship *McArthur II* – permit applied for and under consideration; crew list included on *McArthur II* permit application

NOAA Ship *Oscar Sette* – permit number on file with PMNM

**8. The certifications/inspections (below) must be completed prior to departure for vessels (and associated tenders) entering the Monument. Fill in scheduled date (attach documentation):**

- ☐ Rodent free, Date:
- ☐ Tender vessel, Date:
- ☐ Ballast water, Date:
- ☐ Gear/equipment, Date:
- ☐ Hull inspection, Date:

Documentation submitted separately by NOAA Ships *McArthur II* and *Sette*

**9. Vessel information (NOTE: if you are traveling aboard a National Oceanic and Atmospheric Administration vessel, skip this question):**

Vessel name:

Vessel owner:

Captain's name:

IMO#:

Vessel ID#:

Flag:

Vessel type:

Call sign:

Embarkation port:

Last port vessel will have been at prior to this embarkation:

Length:

Gross tonnage:

Total ballast water capacity volume (m3):

Total number of ballast water tanks on ship:

Total fuel capacity:

Total number of fuel tanks on ship:

Marine Sanitation Device:

Type:

Explain in detail how you will comply with the regulations regarding discharge in the Monument. Describe in detail. If applicable, attach schematics of the vessel's discharge and treatment systems:

Other fuel/hazardous materials to be carried on board and amounts:

Provide proof of a National Oceanic and Atmospheric Administration (NOAA) Office of Law Enforcement-approved Vessel Monitoring System (VMS). Provide the name and contact information of the contractor responsible for installing the VMS system. Also describe VMS unit name and type:

VMS Email:

Inmarsat ID#:

#### 10. Tender information:

On what workboats (tenders) will personnel, gear and materials be transported within the Monument? List the number of tenders/skiffs aboard and specific types of motors:

NOAA Ship *McArthur II* carries two rigid-hulled inflatable boats (RHIB). These can be used for a wide range of activities, including personnel and cargo transfer, rescue operations, diving, and various types of sampling.

The 24-foot "working" RHIB (M2-2) is manufactured by Zodiac and has twin Yamaha 115 hp gasoline outboard engine. Electronics include a Garmin GPSmap 198c unit with fathometer, and a VHF radio.

The 21-foot "rescue" RHIB (M2-1) is manufactured by Zodiac and has a Yamaha 115 hp gasoline outboard engine with equipment including a Garmin GPSmap 230 unit, a HumminBird Matrix 12 fathometer, and a VHF Radio.

NOAA Ship *Oscar Sette* carries three boats as follows:

Achilles

Quantity: 1

Type: Inflatable

Length: 14 ft.

Propulsion: 40 hp Honda outboard motor

Quantity: 1

Type: Safeboat

Length: 15 ft.

Hoisting weight: 1,340 lbs.

Propulsion: 90 hp Honda outboard motor

Capacity: 7 persons

Quantity: 1

Type: Rescue Boat Ambar Marine, ABM-5

Length: 18 ft.  
Propulsion: Twin 60 hp Mariner outboard motors  
Capacity: 7 persons

### **Additional Information for Land Based Operations**

#### **11. Proposed movement of personnel, gear, materials, and, if applicable, samples:**

The monk seal program has requested transport of one monk seal camp staff person from Laysan to Midway and a winter camper from Midway to Kure. Personnel will be picked up and dropped off by a small boat from NOAA Ship *Sette* while the ship maintains survey around each atoll or island. The Laysan, Midway, and Kure stops will be coordinated to reduce impact on survey operations, and will be scheduled in advance.

NOAA Ships *Sette* and *McArthur II* may stop at Midway Island for no more than 8 hours. Personnel will either be transported to and from the island via small boat operations from NOAA vessels or the ships will dock at the island pier. The ships will not be at Midway Island simultaneously.

#### **12. Room and board requirements on island:**

The island pier will be necessary for the ship to dock; no other room or board is needed.

#### **13. Work space needs:**

N/A

#### **DID YOU INCLUDE THESE?**

X Map(s) or GPS point(s) of Project Location(s), if applicable

☐ Funding Proposal(s) N/A

☐ Funding and Award Documentation, if already received N/A

☐ Documentation of Insurance, if already received N/A

☐ Documentation of Inspections

X Documentation of all required Federal and State Permits or applications for permits attached

**Geographic map of survey area.** In addition to the tracklines below, a circumnavigation of islands is planned. The circumnavigation will be between the 500 and 1000 m isobaths.

